SECTION 11132
PROJECTION SCREENS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Electrically operated projection screens.

B. Related Sections:
   1. Supports for projection screens: Section 05500.
   2. Electrical wiring, connections, and installation of remote control switches for electrically operated projection screens: Division 16.

1.2 SUBMITTALS

A. Product Data: Manufacturer's technical data substantiating compliance with indicated requirements.
   1. Include wiring diagram for electrically operated units.

1.3 QUALITY ASSURANCE

A. Single Source Responsibility: Obtain projection screens from a single manufacturer as a complete unit, including necessary mounting hardware and accessories.

B. Coordination of Work: Coordinate layout and installation of projection screens with other construction supported by, or penetrating through, ceilings, including light fixtures, HVAC equipment, fire-suppression system, and partitions.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Do not deliver projection screens until building is enclosed, other construction within spaces where screens will be installed is substantially complete, and installation of screens is ready to take place.

B. Protect screens from damage during delivery, handling, storage, and installation.

PART 2 - PRODUCTS

2.1 PROJECTION SCREEN SURFACES, GENERAL

A. Measurement of Gain of Screen Viewing Surface: Measure gain of screen viewing surface against that of a magnesium carbonate surface by means of a photogoniometer using test methods and test apparatus per FS GG-S-00172D(1) for determining effect of reflected light at various viewing angles on screen surfaces. Ratings of 1.0 refer to those viewing surfaces having a reflectivity equal to the magnesium carbonate surface.

B. Material and Viewing Surface of Screens:
   1. Matte white viewing surface with minimum gain characteristics complying with FS GG-S-00172D(1) for Type A screen surface.
   2. Seamless Construction: Provide screens in sizes indicated without seams.
   3. Mildew Resistance: Provide mildew-resistant screen fabrics as determined by Federal Standard 191A/5760.
   4. Fire Performance Characteristics: Provide projection screen fabrics identical to those materials that have undergone testing and passed requirements for flame resistance as indicated below:
      a. NFPA 701.
      b. Federal Standard 191A/5903 for test method. FS GG-S-00172D(1) for flame resistance.

2.2 ELECTRICALLY OPERATED SCREENS

A. General: Provide manufacturer's standard UL-listed and UL-marked units consisting of case, screen, motor, controls, mounting accessories, and other components required for a complete installation. Remotely control operation of screens to comply with the following:
   1. Single Station Control: Three-position, UL-listed control switch for each screen with metal device box and cover plate for flush wall mounting and for connection to 120 V a.c. power supply.

B. End-Mounted-Motor-Operated Screens with Automatic Ceiling Closure: Units designed and fabricated for recessed installation in ceiling with bottom of case composed of two panels fully enclosing screen and motor, one panel hinged and connected to drive mechanism to open and close automatically when screen is lowered and fully raised and the other panel removable or openable for access to interior of case; and complying with the following requirements:
   1. Screen Case: Wood sides and top with metal-lined motor compartment and aluminum bottom panels, factory-finished white to match ceiling grid.
   2. Motor: Instant reversing, gear drive motor of size and capacity recommended by screen manufacturer with permanently lubricated ball bearings, automatic thermal overload protection, preset limit switches to automatically stop screen in "up" and "down" positions, and positive stop action to prevent coasting. Locate motor in its own compartment.
   3. Screen: As indicated below, with top edge mounted on, and securely anchored to, rigid metal roller supported by self-aligning bearings in brackets.
      a. Material: Vinyl-coated glass fiber fabric.
   4. Size of Viewing Surface: As indicated.
   5. Provide extra drop length of dimension indicated to comply with the following requirements for fabric color and location of drop length:
      a. Color: Same as viewing surface.

C. Products: Subject to compliance with requirements, provide products of one of the following:
   1. End-Mounted-Motor-Operated Screens with Automatic Ceiling Closure:
      a. Da-Lite Screen Co., Inc.
      b. Draper Shade & Screen Co., Inc.

2.3 LARGE SIZE FRONT-PROJECTION SCREENS; BUILDING 8600, CLO

A. Material and Viewing Surface of Front-Projection Screens: Provide screens manufactured from mildew- and flame-resistant fabric of type indicated for each type of screen specified and complying with the following requirements:
   1. Reflective viewing surface, matte silver, silver lenticular, pearlescent, or high-gain matte neutral.
   2. Material: Seamless polyvinyl fabric.
   3. Mildew Resistance: Provide mildew-resistant screen fabrics as determined by FS 191A/5760.
   4. Fire-Test-Response Characteristics: Provide projection-screen fabrics identical to materials that have been tested for flame resistance according to both small- and large-scale tests of NFPA 701.
   5. Seamless Construction: Provide screens in sizes indicated without seams.
   6. Edge Treatment: Black masking borders.
   7. Provide extra drop length of dimension indicated to comply with the following requirements for fabric color and location of drop length:
      a. Color: Black.
      b. Location: At top of screen.
   8. Size of Viewing Surface: 14 feet high by 18 ft 8 inches wide.

B. Electrically Operated Screens, General: Provide manufacturer's standard UL-labeled units consisting of case, screen, motor, controls, mounting accessories, and other components necessary for a complete installation. Remotely control operation of each screen to comply with the following:

1. Single-Station Control: 3-position control switch with metal device box and cover plate for flush wall mounting and for connection to 120-V, ac power supply.
   a. Provide key-operated switch.
2. End-Mounted Motor: Instant-reversing, gear-drive motor of size and capacity recommended by screen manufacturer with permanently lubricated ball bearings, automatic thermal-overload protection, preset limit switches to automatically stop screen in up and down positions, and positive-stop action to prevent coasting. Locate motor in its own compartment as follows:
   a. On left end of screen, unless otherwise indicated.
3. Screen Mounting: Top edge securely anchored to rigid metal roller and bottom edge formed into a pocket holding a 3/8-inch- (9.5-mm-) diameter, metal rod with ends of rod protected by plastic caps.
   a. Roller for end-mounted motor supported by self-aligning bearings in brackets.

C. Manufacturer: Stewart Filmscreen Corporation; Model C Electriscreen

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install projection screens at locations indicated in compliance with screen manufacturer's instructions.

B. Install projection screens with screen cases in position and relationship to adjoining construction as indicated, securely anchored to supporting substrate, and in manner that produces a smoothly operating screen with plumb and straight vertical edges and plumb and flat viewing surfaces when screen is lowered.
   1. Test electrically operated units to verify that screen, controls, limit switches, closure and other operating components are in optimum functioning condition.

3.2 PROTECTION AND CLEANING

A. Protect projection screens after installation from damage during construction. If despite such protection damage occurs, remove and replace damaged components or entire unit as required to provide units in their original, undamaged condition.

END OF SECTION 11132